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| **INDIAN SCHOOL AL WADI AL KABIR** | | |
| **CLASS: VII** | **DEPARTMENT: SCIENCE 2026-2027** | **DATE: 06/05/2026** |
| **TEXTBOOK- Q & A** | **CHAPTER: LIFE PROCESSES IN ANIMALS** | **NOTE: A4 FILE FORMAT** |
| **CLASS & SEC:** | **NAME OF THE STUDENT:** | **ROLL NO.** |

1. Complete the journey of food through the alimentary canal by filling up the boxes with appropriate parts—

Food → Mouth → ☐ → Stomach → ☐ → ☐ → Anus

Ans: Food → Mouth → Oesophagus → Stomach → Small Intestine → Large Intestine → Anus

2. Sahil placed some pieces of chapati in test tube A. Neha placed chewed chapati in test tube B, and Santushti took boiled and mashed potato in test tube C. All of them added a few drops of iodine solution to their test tubes—A, B, and C, respectively.
What would be their observations? Give reasons.

Ans: **Test tube A:** Pieces of chapati (not chewed): Observes that the pieces of chapati turn blue-black because it contains starch, as iodine reacts with starch to give a blue-black colour.

**Test tube B:** Chewed chapati: Observes that there is no blue-black colour because chewing mixes saliva with chapati, which contains the digestive juice and breaks starch into sugars, which do not give a blue-black colour with iodine solution.

**Test tube C:** Boiled and mashed potato: Observes that the boiled and mashed potato turns blue-black because the potato contains a large amount of starch, and iodine reacts strongly with starch.

3. What is the role of the diaphragm in breathing?
(i) To filter the air
(ii) To produce sound
(iii) To help in inhalation and exhalation
(iv) To absorb oxygen

Ans: (iii) To help in inhalation and exhalation

4. Match the following

| **Name of the part** | **Functions** |
|---|---|
| (i) Nostrils | (a) fresh air from outside enters |

| | |
|---|---|
| (ii) Nasal passages | (b) exchange of gases occurs |
| (iii) Windpipe | (c) protects lungs |
| (iv) Alveoli | (d) tiny hair and mucus help to trap dust and dirt from the air we breathe |
| (v) Ribcage | (e) air reaches our lungs through this part |

Ans:

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5. Anil claims to his friend Sanvi that respiration and breathing are the same process. What question(s) can Sanvi ask him to make him understand that he is not, correct?

Ans: To show that breathing and respiration are not the same, Sanvi can ask questions like:

- "Does breathing release energy?"
- "Where in the body is energy produced?"
- "Is oxygen only taken in, or is it also used to break down food inside cells?"
- "Does breathing happen inside the cells or only in the lungs?"

The above questions will make Anil realise:

- Breathing is just taking in oxygen and giving out carbon dioxide.
- Respiration is the breakdown of food in the cells to release energy.

6. Which of the following statements is correct and why?
Anu: We inhale air.
Shanu: We inhale oxygen.
Tanu: We inhale air rich in oxygen.

Ans: Tanu: We inhale air rich in oxygen.

Because the air we inhale is a mixture of gases, not pure oxygen. We know that air contains:

- 78% Nitrogen
- 21% Oxygen
- 1% other gases (Carbon dioxide, water vapour, etc.)

So, we inhale air rich in oxygen, not only oxygen.

7. We often sneeze when we inhale a lot of dust-laden air. What are the possible explanations for this?

Ans: We sneeze because dust irritates the nasal lining, and sneezing helps remove dust to keep the respiratory tract clean.

8. Paridhi and Anusha of Grade 7 started running for their morning workout. After they completed their running, they counted their breaths per minute. Anusha was breathing faster than Paridhi. Provide at least two possible explanations for why Anusha was breathing faster than Paridhi.

Ans: Anusha was breathing faster because her body needed more oxygen and had to remove more carbon dioxide after running. Possible explanations include:

i) Anusha exerted more effort while running

- She may have run faster, longer, or used more energy than Paridhi.
- More energy use means more cellular respiration, which increases oxygen demand.

ii) Anusha may be less physically fit

- less fit people get tired more quickly.
- Their heart and lungs must work harder to supply enough oxygen, so their breathing rate is faster.

iii) Anusha may have lower lung capacity

- If her lungs take in less air per breath, she will need to breathe more frequently to get enough oxygen.

9. Yadu conducted an experiment to test his idea. He took two test tubes, A and B, and added a pinch of rice flour to the test tubes, half-filled with water and stirred them properly. To test tube B, he added a few drops of saliva. He left the two test tubes for 35–45 min. After that, he added iodine solution to both the test tubes. Experimental results are shown in Fig. 9.15. What do you think he wants to test?

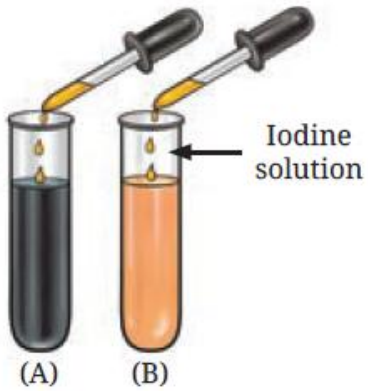


*Fig. 9.15: Experimental results*

Ans: Yadu's experiment is designed to test the role of saliva in the digestion of starch.

1. **Test tube A:** Rice flour + water (No saliva added)
    - After adding iodine, the solution turns blue-black, showing starch is still present.
2. **Test tube B:** Rice flour + water + saliva
    - After 35 – 45 minutes, the solution does not turn blue-black or shows a very faint colour.
    - This indicates that starch has been broken down into sugar by the digestive juice in saliva.

So he concludes that saliva contains digestive juice that digests starch into sugars.

10. Rakshita designed an experiment taking two clean test tubes, A and B and filled them with lime water as shown in the figure. In test tube A, the surrounding air that we inhale was passed on by sucking air from the pipe, and in test tube B, the exhaled air was blown through the pipe (Fig. 9.16). What do you think she is trying to investigate? How can she confirm her findings?

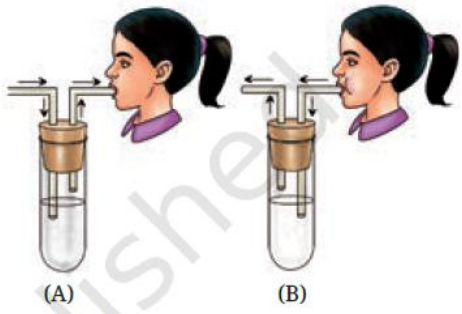

*Fig. 9.16: Experimental set-up*

Ans: Rakshita's experiment is designed to investigate the presence of carbon dioxide in exhaled air.**Explanation of the experiment:**

1. **Test tube A (air we inhale):**
    - Lime water remains clear.
    - Inhaled air has very little carbon dioxide, so no reaction occurs.
2. **Test tube B (air we exhale):**
    - Lime water turns milky/cloudy.
    - Exhaled air contains carbon dioxide, which reacts with lime water (calcium hydroxide solution) to form calcium carbonate, causing the milky appearance.**Conclusion:**

- Exhaled air contains more amount of carbon dioxide, whereas inhaled air contains very little amount of carbon dioxide as compared to inhaled air.
- Rakshita confirmed this by observing the change in lime water colour.

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